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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/362,693	07/29/1999	RANDELL L. MILLS	62-226-9A	7170
20736	7590	05/19/2004	EXAMINER	
MANELLI DENISON & SELTER 2000 M STREET NW SUITE 700 WASHINGTON, DC 20036-3307			KALAFUT, STEPHEN J	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/362,693	Applicant(s) MILLS, RANDELL L.	
	Examiner Stephen J. Kalafut	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 102-205 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 102-205 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/24/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Claims 102-205, for reasons of record, are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. See paper nos. 3 and 10.

Claims 102-205, for reasons of record, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. See paper nos. 3 and 10.

Applicant's arguments filed 2/24/04 have been fully considered but they are not persuasive.

Applicant requests that the Office consider his rebuttal comments to the paper posted by Peter Zimmerman. This rebuttal has been reviewed, but does not address the point made in the previous office action, that a beam of moving electrons, all behaving as theorized by applicant, would have their spin axes all polarized in the same direction, while in reality, electron beams most commonly exhibit random polarization, i.e., their spin axes do not all line up with their direction of motion. While applicant faults the Zimmerman paper as not being peer-reviewed, which may be true, the cited section refers to applicant's own book, and thus only considers the implications of applicant's own theory. In the January 2000 edition of *The Grand Unified Theory of Classical Quantum Mechanics*, the cited section appears on pages 100 through 113. It is noted that the Zimmerman paper is also cited in the attached Appendix.

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Applicant points out that his theory predict a “new ground state”, defined by the radius of the electron “orbitsphere”, which occurs where the speed of the electron, which increases with the increasing p value, would be limited by the speed of light. This is not persuasive because applicant applies Lorentzian transformations for inertial frames to the electron, which is not an inertial frame. See the attached Appendix, starting at the bottom of page 14.

Applicant faults Krieg, stating that Krieg relies on Feynman, and argues that the angular momentum of the electron “from the SE is zero”, not Planck’s constant as argued by Feynman. This is not persuasive because the calculation shown by Krieg does not deal with angular momentum, but simple momentum, as given by the formula $p=mv$. Also, Krieg does not allege that the electron cannot move closer to the nucleus than the Bohr radius, only that the spherical location defined by the Bohr radius is the place where an electron will have it minimum energy. Also, in order for electron angular momentum to be zero, its speed around the nucleus would have to be zero (since an electron has mass, and thus angular momentum is proportional to angular velocity). This contradicts applicant’s position that an electron would have increasing speed with increasing p values, since this position implies that the electron is in motion around the nucleus, and thus has angular momentum. It is noted that Krieg lists three references at the end of his article, none of which were written by Feynman.

Applicant argues that the various technologies mentioned by Tegmark *et al.* do not necessarily depend on the probability wave equations for their existence, and fault Tegmark *et al.* co-author Wheeler for relying on the human mind to collapse the quantum wave function to make these things, and the universe itself real. The Office does not adopt Wheeler’s belief that

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the human mind makes these thing real, but only that the phenomena underlying these inventions are understandable according to quantum mechanics.

Applicant argues that excited states are caused by release of power, in a combustion flame and in his plasmas, in the latter case, the power being released by hydrogen atoms collapsing to form hydrinos. This assumes that a hydrogen atom has more energy than the surrounding plasma components, thus enabling energy transfer from the hydrogen to these other components. It is unclear how an electron in a hydrogen atom, at $n=1$, has more energy than the electrons of ionized atoms, or the electrons which have been removed therefrom.

Applicant asks for a reason why he is required to submit peer-reviewed evidence, while the PTO is not. Applicant is alleging a long-accepted scientific idea is incorrect, and thus bares the burden of providing evidence convincing to the scientific community, while the Office does not have the experimental capability to prove or disprove the theories which underlie inventions, and thus must rely on scientific principles which are known and accepted. The one article cited by the Office which does not appear to be peer-reviewed is that by Zimmerman, which is cited only for a small section which considers the macroscopic consequences of applicant's theory, pertaining to an electron beam, and which has not been rebutted.

Applicant notes the involvement of Examiner Bernard Souw in the examination of another of his applications, and that Examiner Souw had previously worked for Brookhaven National Labs. Two things are thus pointed out. First, examiners are allowed, and even encouraged, to consult other examiners on matters of science. Dr. Souw is the author of the attached Appendix. While originally written for Serial No. 09/513,768, the Appendix is considered relevant to the present application for reasons stated below. Second, the employment

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history of examiners, including those acting in a consulting role, is irrelevant to the examination thereof, except where there is a genuine conflict of interest.

Applicant argues that the various articles attached to the response of 1/7/04 support his contention that hydrogen can exist in states below the "ground state", where the electron has a fractional, rather than an integral, quantum number. These attachments are not persuasive for the following reasons:

- 1) They have not been peer reviewed, or published, but only submitted, so they do not (yet) have the credibility that peer reviewed articles have. To this category belong attachments 53, 56, 58, 62, 64-66, 68, 70-87, 89 and 91-100.
- 2) They do not deal with the "hydrino", but other subject matter, such as spectral data for states above $n=1$, and thus, even if valid, do not pertain to the present invention. To this category belong attachment s 53, 59, 65, 66, 80 and 94. To this category also belong the article "Spectroscopic evidence for highly pumped Balmer and Lyman populations in a water-plasma", by R. Mills and P. Ray, which was submitted with the response, but not listed on the accompanying PTO-1449. It is thus made of record on the enclosed PTO-892.
- 3) They contain data which cannot be accounted for by applicant's theory. The discrepancy is explained in paper no. 40, pages 4 and 5. To this category belong attachments 50, 60, 63, 70, 71, 73, 75, 76, 78, 79, 81, 86, 87, 89, 90, 93, 98, 99 and 101.
- 4) They speculate hydrino formation as an explanation for experimental data unrelated to and not necessarily caused by hydrinos, such as Balmer line broadening, calorimetric data, or "indications" of hydride chemical bonding. Besides the possible explanations for Balmer line broadening mentioned in paper no. 40, the attached Appendix, on page 5, offers still other

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reasons for this phenomenon. To this category belong attachments 51, 52, 54, 55, 57, 59-62, 64, 69, 71, 72, 74, 77, 81, 83-85, 89-92, 95-97, 99 and 100.

5) They contain misidentifications of spectral lines, as explained in the attached Appendix on pages 3 and 4. Lines alleged by applicant to arise from hydrino formation have been identified as coming from helium or oxygen, the latter as an impurity. To this category belong attachments 60, 61, 67, 69 and 82.

6) They are unrelated to the scientific merits of the present invention and only either generally relate to news stories about the PTO and applicant's related applications, or are copies of court cases, a letter to Director Rogan, or other internal documents such as interview summaries. To this category belong 20 attachments which are neither numbered nor listed on the PTO-1449 of 1/07/2004, but which have nonetheless been submitted.

7) Attachment no. 83 has not been found. Attachments 57-81 were previously submitted in the IDS of 3/11/03, paper no. 30. These are lined through in the attached PTO-1449, from the IDS of 2/24/04, because they are already of record.

Since all the "evidence" presented in attachments 50-100 belongs to at least one of the categories (1) to (7) above, they are all deemed to be incredible, and hence, invalid as experimental proof for the existence of the hypothetical hydrino, or compound based thereon, or chemical reactor for producing such a compound.

Further indication that applicant's theory is flawed is provided in the attached Appendix, starting at the bottom of page 5. Applicant, in his book, *The Grand Unified Theory of Classical Quantum Mechanics*, has misunderstood that all stationary states are non-radiative, why excited states radiate while the ground state does not, the fundamentals of quantum theory, Haus's non-

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radiative condition, the distinction between the quantum mechanics eigenfunction and wave function, the uncertainty principle, the concept of spin (which is a property of the electron *per se*, and not of its motion around the nucleus), the hydrogen wave function, and relativistic length contraction (also called Lorentz contraction).

Additional evidence that applicant has mis-identified spectral lines is found in the report "HydroCalatysis Technical Assessment, prepared for Pacificorp by Technology Insights, cited by applicant in Serial No. 09/669,877, in the IDS of 7/17/02. On page 21 thereof, in table 4-1, peaks for seven observed wavelengths of radiation from space, which applicant attributes to transitions between fractional quantum numbers of hydrogen or helium, are shown by Labov and Bowyer to be explainable from integer quantum numbers of iron, helium and oxygen.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sjk

A handwritten signature in black ink, appearing to read 'Sj Kalafut', is written over the printed name and title.

STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP

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